Application Serial No: 10/077,708 Attorney Docket No. 83587
In reply to Office Communication of 16 June 2004

REMARKS

In response to the Office Action of 16 June 2004, please amend the above-identified application. Claims 7-17 are pending in the case. Claims 7-17 are rejected. No claims are allowed. Claim 8 has been cancelled without prejudice or disclaimer. Claim 7 has been amended by this response. This amendment requires neither a new search nor substantial reconsideration.

According to the Examiner, the 35 U.S.C. § 112, second paragraph rejections of claims 7-17, of record on page 2 of the previous Action, are withdrawn.

Also according to the Examiner, the 35 U.S.C. § 102(b) rejection of claims 7-8 as being anticipated by Hull et al (U.S. Patent No. 5,104,592), of record on page 3 of the previous Action, is withdrawn.

Finally the rejection of claims 9-14 under 35 U.S.C. § 103(a) as being unpatentable over Hull et al (U.S. Patent No. 5,104,592) in view of Komori et al. (U.S. Patent No. 5,948,514), of record on page 4 of the previous Action, is withdrawn.

The Examiner has rejected claims 7-8 under 35 U.S.C. § 102(b) as being anticipated by Hull et al (U.S. Patent No. 5, 104,592).

With regard to claim 7, Hull et al. disclose a part (building part; column 12, lines 49-56) comprising a first component made from a photocurable polymer (column 2, lines 45-

56) which is cured (column 12, lines 30-32) and having opposing surfaces (column 12, lines 49-56; Figure 7) and a material interposed between and bonded to the opposing interior surfaces; (rivets comprising the polymer, which is cured; column 12, lines 49-56; Figure 7); the cured material is therefore filled between the surfaces, as it partially fills the space between the surfaces.

With regard to claim 8, the material comprises spaced apart several supports and separate cured material.

The Examiner has rejected claims 9-14 under 35 U.S.C. § 103(a) as being unpatentable over Hull et al (U.S. Patent No. 5, 104,592) in view of Komori et al. (U.S. Patent No. 5,948,514).

Hull et al disclose a part comprising a photocurable polymer as discussed above. With regard to claim 9, Hull et al. fail to disclose a polymer comprising a mixture of an epicchlorohydrin resin, catalyst and filler particles.

The Examiner states that Komori et al teach a photocurable polymer comprising a mixture of an epichlorohydrin resin (column 13, lines 35-42), a catalyst (aid for augmenting curing photocuring properties; column 11, lines 26-33) and filler particles (column 12, lines 46-59) for the purpose of obtaining a resin which is heat-resistant (column 3, lines 3-10). The desirability of providing for a polymer comprising a mixture of an epichlorohydrin resin, catalyst and filler particles in Hull

et al, which comprises a photocurable polymer, would therefore be obvious to one of ordinary skill in the art in view of Komori et al.

With regard to claim 10, Komori et al teach a methylenedomethylene catalyst (catalyst for dissolution; column 5, lines 66-67; column 6, lines 1-14).

With regard to claims 11-13, Komori et al teach a filler comprising glass fibers (column 12, lines 46-59). Komori et al fail to disclose a methylendomethylene in a proportion of 80-90 weight percent of the epichlorohydrin resin, and glass fibers in the range of 1/32 to 1/64 of an inch in length, and glass fibers in the range of 50-60 weight percent of the epichlorohydrin resin. However, Hull et al. disclose methylendomethylene in a proportion of 50 weight percent of the epichlorohydrin resin (column 11, lines 56-65), and glass fibers at least in the range of microscopic length (the resin comprises glass fibers; column 12, lines 46-59), and glass fibers at least in the range of 1 weight percent of the epichlorohydrin resin (the resin comprises glass fibers; column 12, lines 46-59). Therefore, the amounts of methylendomethylene and glass fibers and the length of the glass fibers would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end use of the product. It therefore would be obvious for one of ordinary skill in the art to vary the amounts

of methylendomethylene and glass fibers and the length of the glass fibers, since the amounts of methylendomethylene and glass fibers and the length of the glass fibers would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end result as shown by Komori et al. *In re Boesch and Slaney, 205 USPQ 215 (CCPA 1980)*.

With regard to claim 14, Komori et al disclose a filler comprising clay (column 12, lines 46-59); the claimed aspect of the filler comprising "aluminum powder; therefore reads on Hull et al.

The Examiner has rejected claims 15-17 under 35 U.S.C. 103(a) as being unpatentable over Hull et al. (U.S. Patent No. 5,104,592) in view of Komori et al (U.S. Patent No. 5,948,514) and further in view of Vandenberg et al. (U.S. Patent No. 3,634,303).

The Examiner has stated that Hull et al. and Komori et al. disclose a part comprising epichlorohydrin as discussed above. With regard to claims 15-17, Hull et al and Komori et al fail to disclose a mesh wetted with a catalyzed epichlorohydrin.

The Examiner has stated that Vandenberg et al teach that a mesh wetted with epichlorohydrin is equivalent to epichlorohydrin (column 15, lines 54-62) for the purpose of obtaining a polymeric material having high impact strength

(column 16, lines 1-12). The desirability of providing for a mesh wetted with a catalyzed epichlorohydrin in Hull et al. and Komori et al., which is a building part, would therefore be obvious to one of ordinary skill in the art in view of Vandenberg et al.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for a mesh wetted with a catalyzed epichlorohydrin in Hull et al and Komori et al in order to obtain a polymeric material having high impact strength as taught by Vandenberg et al.

The Examiner has noted that Applicant's arguments regarding the 35 U.S.C. § 112, second paragraph rejections of claims 7-17, of record in the previous Action, have been considered and have been found to be persuasive. The rejections are therefore withdrawn.

The Examiner has noted that Applicant's arguments regarding the 35 U.S.C. § 102(b) rejection of claims 7-8 as being anticipated by Hull et al (U.S. Patent No. 5,104,592) and 35 U.S.C. § 103(a) rejection of claims 9-14 as being unpatentable over Hull et al (U.S. Patent No. 5,104,592) in view of Komori et al (U.S. Patent No. 5,948,514), of record in the previous Action, have been considered but have not been found to be persuasive for the reasons set forth below.

Applicant argues, on page 8 of Paper No. 4, that Hull et al fail to disclose a cured material which is filled in between the opposing surfaces of the component part. However, as stated in the new rejection above, Hull et al disclose a component made from a photocurable polymer (column 2, lines 45-56) which is cured (column 12, lines 30-32) and having opposing surfaces (column 12, lines 49-56; Figure 7) and a material interposed between and bonded to the opposing interior surfaces; (rivets comprising the polymer, which is cured; column 12, lines 49-56; Figure 7); the cured material is therefore filled between the surfaces, as it partially fills the space between the surfaces.

These rejections and objections are respectfully traversed in view of these amendments and remarks.

In the Office Action, claims 7-8 of the present application were rejected under 35 USC § 102(b) as being anticipated by Hull et al. (reference A: U.S. Patent No. 5,104,592). In response, claim 8 has been cancelled without prejudice or disclaimer; therefore, the rejection is resolved for the claim.

In regard to claim 7, the claim has been amended to recite "a plurality of spaced apart internal supports made from said photo-curable polymer, said plurality of spaced apart internal supports extending between said opposing surfaces and separate

from said cured material" As such, the part has at least three strengthening elements with (1) a component of photo-curable polymer, (2) a cured material between opposing surfaces of the component and (3) plurality of spaced apart internal supports between the opposing surfaces and the cured material.

In contrast to the present application, the Hull et al. reference neither suggests nor teaches internal supports and a separate cured material there between. As indicated in the Hull reference, FIG 6 depicts a rail held together with rivets (See Col. 7, line 53). FIG 6. neither depicts at its open end nor does any support of the figure suggest three strengthening elements of a component of photo-curable polymer, plurality of spaced apart internal supports between the opposing surfaces and the cured material. Similarly, FIG. 7, which is cited by the Office Action, is held together or connected with rivets (See Col. 12, lines 54-56). The structure of FIG. 7 is not otherwise distinguishable from FIG. 6, other than its overall shape as a quarter cylinder (See Col. 7, line 54). As such, FIG. 7 also does not disclose internal supports and a separate cured material there between. As a result, amended claim 7 would not be anticipated by the Hull reference; therefore, the rejection under 35 USC 102 is resolved.

In the Office Action, claims 9-14 of the present application were rejected under 35 USC § 103(a) as being

unpatentable over Hull et al. in view of Komori et al. (reference B: U.S. Patent No. 5,948,514). In regard to claim 7, upon which claims 9-14 depend, the claim has been amended to recite "a plurality of spaced apart internal supports made from said photo-curable polymer, said plurality of spaced apart internal supports extending between said opposing surfaces and separate from said cured material" As stated above, the part has at least three strengthening elements of (1) a component of photo-curable polymer, (2) a cured material between opposing surfaces of the component and (3) plurality of spaced apart internal supports between the opposing surfaces and the cured material.

In contrast to the present application and as argued above, the Hull et al. reference neither suggests nor teaches three strengthening elements with internal supports and a separate cured material there between. As a result, combining the Hull and the Komori references would not produce the parts of claims 9-14, which depend on amended claim 7. It would therefore not be obvious to one skilled in the art to combine the Hull reference with the Komori reference under 35 USC 103 and as such the rejection of the Office Action is resolved for claims 9-14.

In the Office Action, claims 15-17 of the present application were rejected under 35 USC § 103(a) as being unpatentable over Hull et al. in view of Komori et al. and

further in view of Vandenberg et al. (reference C: U.S. Patent No. 3,634,303). In regard to claim 7, upon which claims 15-17 depend, the claim has been amended to recite "a plurality of spaced apart internal supports made from said photo-curable polymer, said plurality of spaced apart internal supports extending between said opposing surfaces and separate from said cured material" As stated above, the part has at least three strengthening elements of (1) a component of photo-curable polymer, (2) a cured material between opposing surfaces of the component and (3) plurality of spaced apart internal supports between the opposing surfaces and the cured material.

In contrast to the present application and as argued above, the Hull et al. reference neither suggests nor teaches three strengthening elements with internal supports and a separate cured material there between. As a result, combining the Hull with the Komori and Vandenberg references would not produce the parts of claims 15-17, which depend on amended claim 7. It would therefore not be obvious to one skilled in the art to combine the Hull reference with the Komori and Vandenberg references under 35 USC 103 and as such the rejection of the Office Action is resolved for claims 15-17.

Applicants respectfully suggest in view of these remarks that all grounds for rejection and objection have been removed

by the foregoing amendment. Reconsideration and allowance of this application are therefore earnestly solicited.

The Examiner is invited to phone Mr. Michael P. Stanley, attorney for Applicants, 401-832-4736, if in his opinion such phone call would serve to expedite the prosecution of subject patent application.

Respectfully submitted,

ROBERT V. KIERONSKI

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By _____
MICHAEL P. STANLEY
Attorney of Record
Reg. No. 47108